

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 24 and 27-46 are pending in the present application, Claim 24 having been amended by way of the present amendment in order to correct a minor informality. Support for amendments to the claims can be found in the disclosure as originally filed. Thus, no new matter is added.

In the outstanding Office Action, Claims 24, 27-40 and 43 were rejected under 35 U.S.C. §103(a) as unpatentable over Zinky et al. (U.S. Patent No. 6,480,879, hereinafter Zinky) in view of Shastri (U.S. Pat. Pub. No. 2002/0065922).

Addressing now the rejection of Claim 24-47 under 35 U.S.C. §103(a) as unpatentable over Zinky and Shastri this rejection is respectfully traversed.

Amended Claim 24 recites, in part,

configure an application programming interface as a data model describing quality-of-service adaptation paths as specified by quality-of-service aware mobile multimedia applications using said application programming interface, in order to manage quality-of-service and mobility-aware network connections with other applications, a quality-of-service adaptation path defining an adaptation policy in terms of alternative quality-of-service contracts identifying alternative quality-of-service specifications and rules for switching between the alternative quality-of-service contracts based on a comparison of the contracted QoS specification with the actual quality-of-service, and

wherein said middleware is adapted to repeatedly measure the actual quality-of service and to repeatedly select one of the alternative quality-of-service contracts according to the rules for switching between the alternative quality-of-service contracts based on a comparison of the contracted quality-of-service specifications with the actual quality-of-service, the quality-of-service specifications of the selected quality-of-service contract describing a currently to be achieved quality-of-service for one or more network connections, and

wherein the adaptation paths are modeled as hierarchical finite state machines, each quality-of-service

contract of an adaptation path corresponding to a different state of a hierarchical finite state machine, said rules for switching between the alternative quality-of-service contracts corresponding to transitions between the states of a hierarchical finite state machine and each hierarchical finite state machine comprising:

a finite state machine associated with a User Context, a finite state machine associated with an Application Context nested in said finite state machine associated with said User Context and a finite state machine associated with a Session Context nested in said finite state machine associated with said Application Context,

wherein said User Context, said Application Context and said Session Context each identify an arrangement of quality-of-service specifications enforceable through a set of streams belonging to a given user, multimedia application and telecommunication session, respectively, the given user partaking in the given telecommunication session by means of executing the given multimedia application, and

wherein said arrangements of quality-of-service specifications identified in said User Context, said Application Context and said Session Context are specified by said multimedia applications using said application programming interface.

Zinky describes a system that determines a quality of service and regulates activity in a distributed system based on the determined quality of service. Further, Zinky discloses a measurement of actual QoS.<sup>1</sup> However, as is tacitly acknowledged in the outstanding Action on page 3, Zinky does not describe or suggest rules for switching between alternative QoS contracts, as is recited in Claim 24.

Nevertheless, the outstanding Action cites Shastri as curing the deficiencies of Zinky with regard to the claimed invention.

Shastri describes a system in which a client automatically switches servers. Further, Shastri describes that a server is selected based on a comparison of the actual QoS provided by a current server with the estimated QoS of an alternate server. In one embodiment, Shastri describes selecting a server with an estimated QoS that is better than the actual QoS of the

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<sup>1</sup> See Zinky, c. 6, l. 18-21 or the "provided replicas system condition" described in c.6, l.62 to c.7, l.57.

current server. In an alternate embodiment Shastri describes that a new server is selected only if the QoS of the current server is below some predetermined threshold.

However, Shastri does not describe or suggest alternative quality of service specifications to be achieved or a selection based on a comparison of contracted quality-of-service specifications with the actual quality-of-service.

Moreover, Shastri does not cure the deficiency of Zinky with regard to the specific structure of the hierarchical finite state machine. Specifically, Shastri does not describe a User Content, an Application Context and a Session context identifying quality of service specifications that are enforceable through a set of streams, belonging to a given user, multimedia application and telecommunication session, respectively.

In addition, while Shastri mentions a “user”, an “on-line session” and “multimedia content...processed by player software”, no separate quality of service specifications are provided for these entities and no set of streams, each set relating to a different one of these elements, is disclosed or suggested by Shastri.

Thus, while the claimed invention recites that the a) User Context, the b) Application Context and the c) Session Context each identify an arrangement of quality-of-service specifications enforceable through a set of streams belonging to a a) given user, b) multimedia application and c) telecommunication session, respectively, the given user partaking in the given telecommunication session by means of executing the given multimedia application, this feature is not described or suggested in the cited combination of Zinky and Shastri.

Accordingly, Applicants respectfully submit that Claim 24 and claims depending therefrom, patentably distinguish over Zinky and Shastri considered individually or in combination.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 24 and 27-46, as amended, is patentably distinguishing over the cited art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

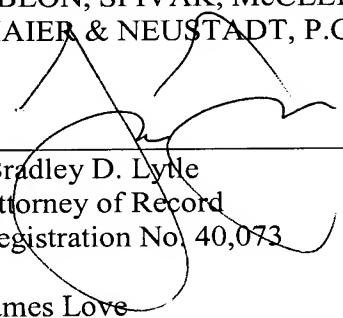
Respectfully submitted,

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